SEQUENCE LISTING

<110> Genentech, Inc. Ashkenazi, Avi Botstein, David Desnoyers, Luc Eaton, Dan L. Ferrara, Napoleone Filvaroff, Ellen Fong, Sherman Gao, Wei-Qiang Gerber, Hanspeter Gerritsen, Mary E. Goddard, A. Godowski, Paul J. Grimaldi, Christopher J. Gurney, Austin L. Hillan, Kenneth, J. Kljavin, Ivar J. Mather, Jennie P. Pan, James Paoni, Nicholas F. Roy, Margaret Ann Stewart, Timothy A. Tumas, Daniel Williams, P. Mickey Wood, William, I.

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Gln Gly Arg Pro Arg Gln Ala Ser Arg Ser Arg Gln Asn Gln Arg Glu 145 150 155 160

Ala His Phe Ile Lys Arg Leu Tyr Gln Gly Gln Leu Pro Phe Pro Asn 165 170 175

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Leu Leu Ala Cys Pro Ser Val Cys Arg Cys Asp Arg Asn Phe Val Tyr
Cys Asn Glu Arg Ser Leu Thr Ser Val Pro Leu Gly Ile Pro Glu Gly
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105

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- Gly Leu Pro Val Asp Leu Gln Glu Leu Arg Val Asp Glu Asn Arg Ile 180 185 190
- Ala Val Ile Ser Asp Met Ala Phe Gln Asn Leu Thr Ser Leu Glu Arg 195 200 205
- Leu Ile Val Asp Gly Asn Leu Leu Thr Asn Lys Gly Ile Ala Glu Gly 210 215 220
- Thr Phe Ser His Leu Thr Lys Leu Lys Glu Phe Ser Ile Val Arg Asn 225 230 235 240
- Ser Leu Ser His Pro Pro Pro Asp Leu Pro Gly Thr His Leu Ile Arg 245 250 255
- Leu Tyr Leu Gln Asp Asn Gln Ile Asn His Ile Pro Leu Thr Ala Phe 260 265 270
- Ser Asn Leu Arg Lys Leu Glu Arg Leu Asp Ile Ser Asn Asn Gln Leu 275 280 285
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- Leu Thr Ala Arg Asn Asn Pro Trp Phe Cys Asp Cys Ser Ile Lys Trp 305 310 315 320
- Val Thr Glu Trp Leu Lys Tyr Ile Pro Ser Ser Leu Asn Val Arg Gly 325 330 335
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Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile 65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val 85 90 95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys 100 105 110

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg 115 120 125

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Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe 180 185 190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly
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Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His

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- Ile Asp Ser Leu Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu 645 650 655
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- Ala Ala Ile Val Phe Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu
 725 730 735
- Trp Ala Ser Lys Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly 740 745 750
- Val Gly Lys Ala Ile Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro 755 760 765
- Thr Asn Lys His Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu 770 780
- Ile Ser Glu Lys Leu Lys Lys Gly Ile Cys Glu Ala Leu Glu Asp Ser 785 790 795 800

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Leu Thr Gln Ser Cys Gly Glu Asn Ala Asn Cys Thr Asn Thr Glu Gly 65 70 75 80

Ser Tyr Tyr Cys Met Cys Val Pro Gly Phe Arg Ser Ser Ser Asn Gln 85 90 95

Asp Arg Phe Ile Thr Asn Asp Gly Thr Val Cys Ile Glu Asn Val Asn 100 105 110

Ala Asn Cys His Leu Asp Asn Val Cys Ile Ala Ala Asn Ile Asn Lys 115 120 125

Thr Leu Thr Lys Ile Arg Ser Ile Lys Glu Pro Val Ala Leu Leu Gln 130 135 140

Glu Val Tyr Arg Asn Ser Val Thr Asp Leu Ser Pro Thr Asp Ile Ile 145 150 155 160

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Ile Asn Thr Asn Thr Asn Lys Leu Phe Cys Ser Ile Ile Ala Gly Leu 485 490 495

Leu His Tyr Phe Phe Leu Ala Ala Phe Ala Trp Met Cys Ile Glu Gly 500 505 510

Ile His Leu Tyr Leu Ile Val Val Gly Val Ile Tyr Asn Lys Gly Phe 515 520 525

Leu His Lys Asn Phe Tyr Ile Phe Gly Tyr Leu Ser Pro Ala Val Val 530 535 540

Val Gly Phe Ser Ala Ala Leu Gly Tyr Arg Tyr Tyr Gly Thr Thr Lys 545 550 555 560

Val Cys Trp Leu Ser Thr Glu Asn Asn Phe Ile Trp Ser Phe Ile Gly 565 570 575

Pro Ala Cys Leu Ile Ile Leu Val Asn Leu Leu Ala Phe Gly Val Ile 580 585 590

Ile Tyr Lys Val Phe Arg His Thr Ala Gly Leu Lys Pro Glu Val Ser 595 600 605

Cys Phe Glu Asn Ile Arg Ser Cys Ala Arg Gly Ala Leu Ala Leu Leu 610 620

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Ala Ser Val Val Thr Ala Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln 645 650 655

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35

50

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- Ile Gly Leu His Asn Leu Leu Arg Leu His Leu Asn Ser Asn Arg Leu
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Asn Tyr Phe Thr Cys Arg Arg Ala Arg Ile Arg Asp Arg Lys Ala Gln 420 425 430

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oligonucleotide probe

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- Pro Gly Pro Gly Gly Gly Ser Lys Asp Leu Leu Phe Trp Val Ala Leu 85 90 95
- Glu Arg Arg Arg Ser His Cys Thr Leu Glu Asn Glu Pro Leu Arg Gly
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- Phe Ser Trp Leu Ser Ser Asp Pro Gly Gly Leu Glu Ser Asp Thr Leu 115 120 125
- Gln Trp Val Glu Glu Pro Gln Arg Ser Cys Thr Ala Arg Arg Cys Ala 130 135 140
- Val Leu Gln Ala Thr Gly Gly Val Glu Pro Ala Gly Trp Lys Glu Met 145 150 155 160
- Arg Cys His Leu Arg Ala Asn Gly Tyr Leu Cys Lys Tyr Gln Phe Glu 165 170 175
- Val Leu Cys Pro Ala Pro Arg Pro Gly Ala Ala Ser Asn Leu Ser Tyr 180 185 190
- Arg Ala Pro Phe Gln Leu His Ser Ala Ala Leu Asp Phe Ser Pro Pro 195 200 205
- Gly Thr Glu Val Ser Ala Leu Cys Arg Gly Gln Leu Pro Ile Ser Val 210 215 220
- Thr Cys Ile Ala Asp Glu Ile Gly Ala Arg Trp Asp Lys Leu Ser Gly 225 230 235 240
- Asp Val Leu Cys Pro Cys Pro Gly Arg Tyr Leu Arg Ala Gly Lys Cys 245 250 255
- Ala Glu Leu Pro Asn Cys Leu Asp Asp Leu Gly Gly Phe Ala Cys Glu 260 265 270
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- Ser Gly Glu Gly Gln Pro Thr Leu Gly Gly Thr Gly Val Pro Thr Arg 290 295 300
- Arg Pro Pro Ala Thr Ala Thr Ser Pro Val Pro Gln Arg Thr Trp Pro 305 310 315 320
- Ile Arg Val Asp Glu Lys Leu Gly Glu Thr Pro Leu Val Pro Glu Gln 325 330 335
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Ile	Phe	Val	Ser	Thr 405	Ala	Val	Val	Val	Leu 410	Val	Ile	Leu	Thr	Met 415	Thr	
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Lys 465	Val	Gly	Asp	Cys	Asp 470	Leu	Arg	Asp	Arg	Ala 475	Glu	Gly	Ala	Leu	Leu 480	
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Phe Pro Gly Val Tyr Pro Pro Asn Ser Lys Cys Thr Trp Lys Ile Thr
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55

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- Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala Ala 130 135 140
- Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp Arg 145 150 155 160
- Pro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr Pro 165 170 175
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- Ile Glu Leu Lys Phe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr Cys 195 200 205
- Arg Tyr Asp Tyr Val Ala Val Phe Asn Gly Gly Glu Val Asn Asp Ala 210 215 220
- Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile Val 225 230 235 240
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- Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys Leu 260 265 270
- Pro Thr Thr Glu Gln Pro Val Thr Thr Thr Phe Pro Val Thr Thr 275 280 285
- Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg Thr 290 295 300
- Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala Gly 305 310 315
- Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr Val 325 330 335
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          35
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- Asp Cys Ala Lys Ala Cys Leu Gly Cys Met Gly Ala Gly Pro Gly Arg 275 280 285
- Cys Lys Lys Cys Ser Pro Gly Tyr Gln Gln Val Gly Ser Lys Cys Leu 290 295 300
- Asp Val Asp Glu Cys Glu Thr Glu Val Cys Pro Gly Glu Asn Lys Gln 305 310 315 320
- Cys Glu Asn Thr Glu Gly Gly Tyr Arg Cys Ile Cys Ala Glu Gly Tyr 325 330 335
- Lys Gln Met Glu Gly Ile Cys Val Lys Glu Gln Ile Pro Glu Ser Ala 340 345 350

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- Leu Gln Arg Ser His Gly Asp Arg Ser Arg Gly Lys Arg Phe Ser Gln 65 70 75 80
- Ser Phe Arg Glu Val Ala Gly Arg Phe Leu Ala Leu Glu Ala Ser Thr
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- His Leu Leu Val Phe Gly Met Glu Gln Arg Leu Pro Pro Asn Ser Glu 100 105 110
- Leu Val Gln Ala Val Leu Arg Leu Phe Gln Glu Pro Val Pro Lys Ala 115 120 125
- Ala Leu His Arg His Gly Arg Leu Ser Pro Arg Ser Ala Arg Ala Arg 130 135 140
- Val Thr Val Glu Trp Leu Arg Val Arg Asp Asp Gly Ser Asn Arg Thr 145 150 155 160
- Ser Leu Ile Asp Ser Arg Leu Val Ser Val His Glu Ser Gly Trp Lys 165 170 175
- Ala Phe Asp Val Thr Glu Ala Val Asn Phe Trp Gln Gln Leu Ser Arg 180 185 190
- Pro Arg Gln Pro Leu Leu Leu Gln Val Ser Val Gln Arg Glu His Leu 195 200 205
- Gly Pro Leu Ala Ser Gly Ala His Lys Leu Val Arg Phe Ala Ser Gln 210 215 220
- Gly Ala Pro Ala Gly Leu Gly Glu Pro Gln Leu Glu Leu His Thr Leu 225 230 235 240
- Asp Leu Gly Asp Tyr Gly Ala Gln Gly Asp Cys Asp Pro Glu Ala Pro 245 250 255
- Met Thr Glu Gly Thr Arg Cys Cys Arg Gln Glu Met Tyr Ile Asp Leu 260 265 270
- Gln Gly Met Lys Trp Ala Glu Asn Trp Val Leu Glu Pro Pro Gly Phe 275 280 285
- Leu Ala Tyr Glu Cys Val Gly Thr Cys Arg Gln Pro Pro Glu Ala Leu 290 295 300
- Ala Phe Lys Trp Pro Phe Leu Gly Pro Arg Gln Cys Ile Ala Ser Glu 305 310 315 320
- Thr Asp Ser Leu Pro Met Ile Val Ser Ile Lys Glu Gly Gly Arg Thr 325 330 335

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qaqqaccqqq tqaccttctt qccaactqqt atcaccttca aqtccqtqac acqqqaaqac 360
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Ser Ser Glu Pro Glu Val Arg Ile Pro Glu Asn Asn Pro Val Lys Leu
Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val Glu Trp Lys Phe
     50
                         55
                                             60
Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr Asn Asn Lys Ile Thr
 65
                     70
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Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu Pro Thr Gly Ile Thr Phe

Lys Ser Val Thr Arg Glu Asp Thr Gly Thr Tyr Thr Cys Met Val Ser 100 105 110

Glu Glu Gly Gly Asn Ser Tyr Gly Glu Val Lys Val Lys Leu Ile Val 115 120 125

Leu Val Pro Pro Ser Lys Pro Thr Val Asn Ile Pro Ser Ser Ala Thr 130 135 140

Ile Gly Asn Arg Ala Val Leu Thr Cys Ser Glu Gln Asp Gly Ser Pro 145 150 155 160

Pro Ser Glu Tyr Thr Trp Phe Lys Asp Gly Ile Val Met Pro Thr Asn 165 170 175

Pro Lys Ser Thr Arg Ala Phe Ser Asn Ser Ser Tyr Val Leu Asn Pro 180 185 190

Thr Thr Gly Glu Leu Val Phe Asp Pro Leu Ser Ala Ser Asp Thr Gly 195 200 205

Glu Tyr Ser Cys Glu Ala Arg Asn Gly Tyr Gly Thr Pro Met Thr Ser 210 215 220

Asn Ala Val Arg Met Glu Ala Val Glu Arg Asn Val Gly Val Ile Val 225 230 235 240

Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Ile Leu Val Phe Gly 245 250 255

Ile Trp Phe Ala Tyr Ser Arg Gly His Phe Asp Arg Thr Lys Lys Gly 260 265 270

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<212> DNA

<213> Artificial Sequence

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oligonucleotide probe

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geetggagge egeegegage eegettteea eeeegacete tgeecaggee geaggeecea 180
getcaggetc gtgcccaccc accaagttcc agtgccgcac cagtggctta tgcgtgcccc 240
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atgagatect eceggaaggg gatgecacaa ceatggggee eeetgtgaee etggagagtg 600
teacetetet caggaatgee acaaceatgg ggeeceetgt gaeeetggag agtgteecet 660
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                              40
          35
Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln Cys Arg Thr Ser
Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp Arg Asp Leu Asp Cys
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                                          75
                      70
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Lys Gly Gln Cys Pro Pro Pro Pro Gly Leu Pro Cys Pro Cys Thr Gly 100 105 110

Val Ser Asp Cys Ser Gly Gly Thr Asp Lys Lys Leu Arg Asn Cys Ser 115 120 125

Arg Leu Ala Cys Leu Ala Gly Glu Leu Arg Cys Thr Leu Ser Asp Asp 130 135 140

Cys Ile Pro Leu Thr Trp Arg Cys Asp Gly His Pro Asp Cys Pro Asp 145 150 150

Ser Ser Asp Glu Leu Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly 165 170 175

Asp Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser 180 185 190

Leu Arg Asn Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val 195 200 205

Pro Ser Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly 210 215 220

Ser Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Ser Ala 225 230 235 240

Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala Gln 245 250 255

Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu Ser Leu 260 265 270

Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro 275 280

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<211> 24

<212> DNA

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<220>

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<400> 128

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<211> 50
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<212> DNA
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<223> a, t, c or g
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cagactettg caagetggat geeetetgtg gatgaaagat gtateatgga atgaaceega 180
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<213> Homo sapiens
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Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
Asp Asn Ser Ile Cys Val Gln Glu Asp Cys Arg Ile Pro Gln Ile Glu
                                                 125
                             120
        115
Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
                         135
    130
Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Pro Asp Leu His Asn
                     150
Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
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                                     170
                 165
Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
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Arg	Cys 210	Phe	Pro	Gly	Phe	Lys 215	Leu	Asp	Gly	Ser	Ala 220	Tyr	Leu	Glu	Cys
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Glu	Phe	Tyr 275	Cys	Asp	Pro	Gly	Tyr 280	Ser	Leu	Thr	Ser	Asp 285	Tyr	Lys	Tyr
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Cys Tyr Lys Val Ile Tyr Phe His Asp Thr Ser Arg Arg Leu Asn Phe
                         55
Glu Glu Ala Lys Glu Ala Cys Arg Arg Asp Gly Gly Gln Leu Val Ser
                      70
                                          75
 65
Ile Glu Ser Glu Asp Glu Gln Lys Leu Ile Glu Lys Phe Ile Glu Asn
                                      90
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Leu Leu Pro Ser Asp Gly Asp Phe Trp Ile Gly Leu Arg Arg Glu
100 105 110

- Glu Lys Gln Ser Asn Ser Thr Ala Cys Gln Asp Leu Tyr Ala Trp Thr 115 120 125
- Asp Gly Ser Ile Ser Gln Phe Arg Asn Trp Tyr Val Asp Glu Pro Ser 130 135 140
- Cys Gly Ser Glu Val Cys Val Val Met Tyr His Gln Pro Ser Ala Pro 145 150 155 160
- Ala Gly Ile Gly Gly Pro Tyr Met Phe Gln Trp Asn Asp Asp Arg Cys
 165 170 175
- Asn Met Lys Asn Asn Phe Ile Cys Lys Tyr Ser Asp Glu Lys Pro Ala 180 185 190
- Val Pro Ser Arg Glu Ala Glu Gly Glu Glu Thr Glu Leu Thr Thr Pro 195 200 205
- Val Leu Pro Glu Glu Thr Gln Glu Glu Asp Ala Lys Lys Thr Phe Lys 210 215 220
- Glu Ser Arg Glu Ala Ala Leu Asn Leu Ala Tyr Ile Leu Ile Pro Ser 225 230 235 240
- Ile Pro Leu Leu Leu Leu Val Val Thr Thr Val Val Cys Trp Val 245 250 255
- Trp Ile Cys Arg Lys Arg Lys Arg Glu Gln Pro Asp Pro Ser Thr Lys 260 265 270
- Lys Gln His Thr Ile Trp Pro Ser Pro His Gln Gly Asn Ser Pro Asp 275 280 285
- Leu Glu Val Tyr Asn Val Ile Arg Lys Gln Ser Glu Ala Asp Leu Ala 290 295 300
- Glu Thr Arg Pro Asp Leu Lys Asn Ile Ser Phe Arg Val Cys Ser Gly 305 310 315 320
- Glu Ala Thr Pro Asp Asp Met Ser Cys Asp Tyr Asp Asn Met Ala Val 325 330 335
- Asn Pro Ser Glu Ser Gly Phe Val Thr Leu Val Ser Val Glu Ser Gly 340 345 350
- Phe Val Thr Asn Asp Ile Tyr Glu Phe Ser Pro Asp Gln Met Gly Arg 355 360 365
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Lys Leu Lys Met Val Gln Val Val Phe Arg His Gly Ala Arg Ser Pro
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Ala Gly Gly Pro Lys Pro Tyr Ser Pro Tyr Asp Ser Gln Tyr His Glu
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Thr Asp Glu Ala Asp Ser Glu Val Leu Tyr Pro Asn Tyr Gln Ser Cys 195 200 205

Trp Ser Leu Arg Gln Arg Thr Arg Gly Arg Arg Gln Thr Ala Ser Leu 210 215 220

Gln Pro Gly Ile Ser Glu Asp Leu Lys Lys Val Lys Asp Arg Met Gly 225 230 235 240

Ile Asp Ser Ser Asp Lys Val Asp Phe Phe Ile Leu Leu Asp Asn Val 245 250 255

Ala Ala Glu Gln Ala His Asn Leu Pro Ser Cys Pro Met Leu Lys Arg 260 265 270

Phe Ala Arg Met Ile Glu Gln Arg Ala Val Asp Thr Ser Leu Tyr Ile 275 280 285

Leu Pro Lys Glu Asp Arg Glu Ser Leu Gln Met Ala Val Gly Pro Phe 290 295 300

Leu His Ile Leu Glu Ser Asn Leu Leu Lys Ala Met Asp Ser Ala Thr 305 310 315 320

Ala Pro Asp Lys Ile Arg Lys Leu Tyr Leu Tyr Ala Ala His Asp Val 325 330 335

Thr Phe Ile Pro Leu Leu Met Thr Leu Gly Ile Phe Asp His Lys Trp 340 345 350

Pro Pro Phe Ala Val Asp Leu Thr Met Glu Leu Tyr Gln His Leu Glu 355 360 365

Ser Lys Glu Trp Phe Val Gln Leu Tyr Tyr His Gly Lys Glu Gln Val 370 375 380

Pro Arg Gly Cys Pro Asp Gly Leu Cys Pro Leu Asp Met Phe Leu Asn 385 390 390 395 400

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Cys Asp Asp Gly Trp Asp Ile Lys Asp Val Ala Val Leu Cys Arg Glu
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Leu Gly Cys Gly Ala Ala Ser Gly Thr Pro Ser Gly Ile Leu Tyr Glu
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 Thr Gly Thr Glu Asp Thr Leu Ala Gln Cys Glu Gln Glu Glu Val Tyr
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Gly His Cys Lys Gly Arg Val Glu Val Lys His Gln Asn Gln Trp Tyr 145 150 155 160

Thr Val Cys Gln Thr Gly Trp Ser Leu Arg Ala Ala Lys Val Val Cys 165 170 175

Arg Gln Leu Gly Cys Gly Arg Ala Val Leu Thr Gln Lys Arg Cys Asn 180 185 190

Lys His Ala Tyr Gly Arg Lys Pro Ile Trp Leu Ser Gln Met Ser Cys 195 200 205

Ser Gly Arg Glu Ala Thr Leu Gln Asp Cys Pro Ser Gly Pro Trp Gly 210 215 220

Lys Asn Thr Cys Asn His Asp Glu Asp Thr Trp Val Glu Cys Glu Asp 225 230 235 240

Pro Phe Asp Leu Arg Leu Val Gly Gly Asp Asn Leu Cys Ser Gly Arg 245 250 255

Leu Glu Val Leu His Lys Gly Val Trp Gly Ser Val Cys Asp Asp Asn 260 265 270

Trp Gly Glu Lys Glu Asp Gln Val Val Cys Lys Gln Leu Gly Cys Gly 275 280 285

Lys Ser Leu Ser Pro Ser Phe Arg Asp Arg Lys Cys Tyr Gly Pro Gly 290 295 300

Val Gly Arg Ile Trp Leu Asp Asn Val Arg Cys Ser Gly Glu Glu Gln 305 310 315 320

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Ala Tyr Leu Arg Asn Ala Val Val Val Ile Thr Gly Ala Thr Ser Gly 35 40 45

Leu Gly Lys Glu Cys Ala Lys Val Phe Tyr Ala Ala Gly Ala Lys Leu 50 55 60

Val Leu Cys Gly Arg Asn Gly Gly Ala Leu Glu Glu Leu Ile Arg Glu
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Leu Thr Ala Ser His Ala Thr Lys Val Gln Thr His Lys Pro Tyr Leu 85 90 95

Val Thr Phe Asp Leu Thr Asp Ser Gly Ala Ile Val Ala Ala Ala Ala 100 105 110

Glu Ile Leu Gln Cys Phe Gly Tyr Val Asp Ile Leu Val Asn Asn Ala 115 120 125

Gly Ile Ser Tyr Arg Gly Thr Ile Met Asp Thr Thr Val Asp Val Asp 130 135 140

Lys Arg Val Met Glu Thr Asn Tyr Phe Gly Pro Val Ala Leu Thr Lys 145 150 155 160

Ala Leu Leu Pro Ser Met Ile Lys Arg Gln Gly His Ile Val Ala 165 170 175

Ile Ser Ser Ile Gln Gly Lys Met Ser Ile Pro Phe Arg Ser Ala Tyr 180 185 190

Ala Ala Ser Lys His Ala Thr Gln Ala Phe Phe Asp Cys Leu Arg Ala 195 200 205

Glu Met Glu Gln Tyr Glu Ile Glu Val Thr Val Ile Ser Pro Gly Tyr

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Tyr	Gly	Val	Met	Asp 245	Thr	Thr	Thr	Ala	Gln 250	Gly	Arg	Ser	Pro	Val 255	Glu	
Val	Ala	Gln	Asp 260	Val	Leu	Ala	Ala	Val 265	Gly	Lys	Lys	Lys	Lys 270	Asp	Val	
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Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys Ser Lys Leu Val 50 55 60

Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu Thr Ala Ala Lys Cys 65 70 75 80

Lys Gly Leu Gly Ala Lys Val His Thr Phe Val Val Asp Cys Ser Asn 85 90 95

Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys Val Lys Ala Glu Ile Gly
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Asp Val Ser Ile Leu Val Asn Asn Ala Gly Val Val Tyr Thr Ser Asp 115 120 125

Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu Lys Thr Phe Glu Val Asn 130 135 140

Lys Asn Asn His Gly His Ile Val Thr Val Ala Ser Ala Ala Gly His 165 170 175

Val Ser Val Pro Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala 180 185 190

Val Gly Phe His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile 195 200 205

Thr Gly Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly 210 215 220

Phe Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu 225 230 235 240

Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys Met 245 250 255

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- Leu Glu Gly Ser Phe Thr Ser Pro Asn Tyr Pro Lys Pro His Pro Glu 165 170 175
- Leu Ala Tyr Cys Val Trp His Ile Gln Val Glu Lys Asp Tyr Lys Ile 180 185 190
- Lys Leu Asn Phe Lys Glu Ile Phe Leu Glu Ile Asp Lys Gln Cys Lys 195 200 205
- Phe Asp Phe Leu Ala Ile Tyr Asp Gly Pro Ser Thr Asn Ser Gly Leu 210 215 220
- Ile Gly Gln Val Cys Gly Arg Val Thr Pro Thr Phe Glu Ser Ser Ser 225 230 235 240
- Asn Ser Leu Thr Val Val Leu Ser Thr Asp Tyr Ala Asn Ser Tyr Arg 245 250 255
- Gly Phe Ser Ala Ser Tyr Thr Ser Ile Tyr Ala Glu Asn Ile Asn Thr 260 265 270
- Thr Ser Leu Thr Cys Ser Ser Asp Arg Met Arg Val Ile Ile Ser Lys 275 280 285

- Ser Tyr Leu Glu Ala Phe Asn Ser Asn Gly Asn Asn Leu Gln Leu Lys 290 295 300
- Asp Pro Thr Cys Arg Pro Lys Leu Ser Asn Val Val Glu Phe Ser Val 305 310 315 320
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- His Asn Ser Thr Val Glu Ile Ile Tyr Ile Thr Glu Asp Asp Val Ile 370 375 380
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- Glu Ser Asn Ser Phe Glu Lys Thr Ile Leu Glu Ser Pro Tyr Tyr Val 405 410 415
- Asp Leu Asn Gln Thr Leu Phe Val Gln Val Ser Leu His Thr Ser Asp 420 425 430
- Pro Asn Leu Val Val Phe Leu Asp Thr Cys Arg Ala Ser Pro Thr Ser 435 440 445
- Asp Phe Ala Ser Pro Thr Tyr Asp Leu Ile Lys Ser Gly Cys Ser Arg 450 455 460
- Asp Glu Thr Cys Lys Val Tyr Pro Leu Phe Gly His Tyr Gly Arg Phe 465 470 475 480
- Gln Phe Asn Ala Phe Lys Phe Leu Arg Ser Met Ser Ser Val Tyr Leu 485 490 495
- Gln Cys Lys Val Leu Ile Cys Asp Ser Ser Asp His Gln Ser Arg Cys 500 505 510
- Asn Gln Gly Cys Val Ser Arg Ser Lys Arg Asp Ile Ser Ser Tyr Lys 515 520 525
- Trp Lys Thr Asp Ser Ile Ile Gly Pro Ile Arg Leu Lys Arg Asp Arg 530 535 540
- Ser Ala Ser Gly Asn Ser Gly Phe Gln His Glu Thr His Ala Glu Glu 545 550 555 560
- Thr Pro Asn Gln Pro Phe Asn Ser Val His Leu Phe Ser Phe Met Val

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- Ser Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Trp Trp Gln Lys 65 70 75 80
- Glu Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro 85 90 95
- Ser Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe 100 105 110
- Asn Ala Asn Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr 115 120 125
- Ile Val Leu Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser 130 135 140
- Glu Tyr Ser Trp Asn Trp Asn Ala Ile Asp Glu Gly Pro Lys Arg Asp 145 150 155 160
- Ile Val Lys Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg 165 170 175
- Phe Gly Leu Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu 180 185 190
- Glu Asp Glu Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys 195 200 205
- Thr Leu Pro Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val 210 215 220
- Leu Trp Ser Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser 225 230 235 240
- Thr Gly Phe Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr 245 250 255
- Val Val Thr Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly 260 265 270
- Gly Phe Tyr Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro 275 280 285
- His Lys Trp Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr 290 295 300
- Arg Arg Glu Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val 305 310 315 320
- Lys Gln Leu Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn 325 330 335

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2372

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Gly Leu Ser Leu Ala Gly Lys Asp Gln Val Glu Thr Ala Leu Lys Ala
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 Ser Phe Glu Thr Cys Ser Tyr Gly Trp Val Gly Asp Gly Phe Val Val
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 Ile Ser Arg Ile Ser Pro Asn Pro Lys Cys Gly Lys Asn Gly Val Gly
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 Val Leu Ile Trp Lys Val Pro Val Ser Arg Gln Phe Ala Ala Tyr Cys
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 Tyr Asn Ser Ser Asp Thr Trp Thr Asn Ser Cys Ile Pro Glu Ile Ile
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<210> 203

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<213> Artificial Sequence

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<400> 204
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<211> 50
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<223> Description of Artificial Sequence: Synthetic
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<211> 1620
<212> DNA
<213> Homo sapiens
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<223> a, t, c or g
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Glu Val Glu Ile Leu Met Phe Leu Ser Ala Ile Val Met Met Lys Asn 65 70 75 80

Leu Pro Thr Gln Arg Glu Asp Gly Asn Pro Cys Asp Phe Asp Trp Arg

40

50

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- Gly Leu Leu Tyr Ile Thr Leu Cys Ile Val Phe Leu Met Thr Cys Lys 115 120 125
- Pro Pro Leu Tyr Met Gly Pro Glu Tyr Ile Lys Tyr Phe Asn Asp Lys 130 135 140
- Thr Ile Asp Glu Glu Leu Glu Arg Asp Lys Arg Val Thr Trp Ile Val 145 150 155 160
- Glu Phe Phe Ala Asn Trp Ser Asn Asp Cys Gln Ser Phe Ala Pro Ile 165 170 175
- Tyr Ala Asp Leu Ser Leu Lys Tyr Asn Cys Thr Gly Leu Asn Phe Gly 180 185 190
- Lys Val Asp Val Gly Arg Tyr Thr Asp Val Ser Thr Arg Tyr Lys Val
- Ser Thr Ser Pro Leu Thr Lys Gln Leu Pro Thr Leu Ile Leu Phe Gln 210 215 220
- Gly Gly Lys Glu Ala Met Arg Arg Pro Gln Ile Asp Lys Lys Gly Arg 225 230 235 235
- Ala Val Ser Trp Thr Phe Ser Glu Glu Asn Val Ile Arg Glu Phe Asn 245 250 255
- Leu Asn Glu Leu Tyr Gln Arg Ala Lys Lys Leu Ser Lys Ala Gly Asp 260 265 270
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- Asp Gly Glu Asn Lys Lys Asp Lys 290 295
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- <211> 24
- <212> DNA
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<210> 210
<211> 24
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<223> Description of Artificial Sequence: Synthetic
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<400> 210
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<213> Homo sapiens
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Ala Ser Ser Glu Val Asn Leu Ala Asn Leu Pro Pro Ser Tyr His Asn 85 90 95

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Gly Leu Leu Phe Pro Val Cys Thr Pro Leu Pro Val Glu Gly Glu Leu 225 230 235 240

Cys His Asp Pro Ala Ser Arg Leu Leu Asp Leu Ile Thr Trp Glu Leu 245 250 255

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Cys Gln Pro His Ser His Ser Leu Val Tyr Val Cys Lys Pro Thr Phe 275 280 285

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Gl.	u Pro	o Gli	n Se	r Thr 395		ı Cys	s Ala	a Glu	1 Pro 400) Asr	Let	ı Glr	Arg 405
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Cys Ala His Pro Leu Ala Thr Leu Phe Lys Ile Leu Ala Ser Phe
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Ser Ile Arg Glu Glu Ser Ser Tyr Ser Asp Ile Pro Asp Val Lys

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Arg	Leu	Lys	Ser	Asn	Leu	Ser	Lys	Leu		Gln	Val	Val	Thr	
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Val	Gly	Val	His	Leu 305	Gln	Lys	Leu	Ser	Ile 310	Asn	Asn	Glu	Gly	Thr 315
Lys	Leu	Ile	Val	Leu 320	Asn	Ser	Leu	Lys	Lys 325	Met	Ala	Asn	Leu	Thr 330
Glu	Leu	Glu	Leu	Ile 335	Arg	Cys	Asp	Leu	Glu 340	Arg	Ile	Pro	His	Ser 345
Ile	Phe	Ser	Leu	His 350	Asn	Leu	Gln	Glu	Ile 355	Asp	Leu	Lys	Asp	Asn 360

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Asn Leu Lys Thr Ile Glu Glu Ile Ile Ser Phe Gln His Leu His
Arg Leu Thr Cys Leu Lys Leu Trp Tyr Asn His Ile Ala Tyr Ile
                                     385
                 380
Pro Ile Gln Ile Gly Asn Leu Thr Asn Leu Glu Arg Leu Tyr Leu
                                     400
                 395
Asn Arg Asn Lys Ile Glu Lys Ile Pro Thr Gln Leu Phe Tyr Cys
                                     415
                 410
Arg Lys Leu Arg Tyr Leu Asp Leu Ser His Asn Asn Leu Thr Phe
                                                          435
                 425
Leu Pro Ala Asp Ile Gly Leu Leu Gln Asn Leu Gln Asn Leu Ala
Ile Thr Ala Asn Arg Ile Glu Thr Leu Pro Pro Glu Leu Phe Gln
                                     460
                 455
Cys Arg Lys Leu Arg Ala Leu His Leu Gly Asn Asn Val Leu Gln
Ser Leu Pro Ser Arq Val Gly Glu Leu Thr Asn Leu Thr Gln Ile
                                     490
Glu Leu Arg Gly Asn Arg Leu Glu Cys Leu Pro Val Glu Leu Gly
                                                          510
                                     505
                 500
Glu Cys Pro Leu Leu Lys Arg Ser Gly Leu Val Val Glu Glu Asp
                 515
Leu Phe Asn Thr Leu Pro Pro Glu Val Lys Glu Arg Leu Trp Arg
Ala Asp Lys Glu Gln Ala
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<210> 251
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<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide Probe

<400> 251

caacaatgag ggcaccaagc 20

<210> 252

<211> 24

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<212> DNA
<213> Artificial Sequence
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<223> Synthetic Oligonucleotide Probe
<400> 252
gatggctagg ttctggaggt tctg 24
<210> 253
<211> 47
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 253
caacctgcag gagattgacc tcaaggacaa caacctcaag accatcg 47
<210> 254
<211> 1650
<212> DNA
<213> Homo Sapien
<400> 254
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 gegetetece gteeegeggt ggttgetget getgeegetg etgetgggee 100
 tgaacgcagg agctgtcatt gactggccca cagaggaggg caaggaagta 150
 tgggattatg tgacggtccg caaggatgcc tacatgttct ggtggctcta 200
 ttatgccacc aactcctgca agaacttctc agaactgccc ctggtcatgt 250
 ggcttcaggg cggtccaggc ggttctagca ctggatttgg aaactttgag 300
 gaaattgggc cccttgacag tgatctcaaa ccacggaaaa ccacctggct 350
 ccaggetgcc agtetectat ttgtggataa tecegtgggc aetgggttca 400
 gttatgtgaa tggtagtggt gcctatgcca aggacctggc tatggtggct 450
 tcagacatga tggttctcct gaagaccttc ttcagttgcc acaaagaatt 500
 ccagacagtt ccattctaca ttttctcaga gtcctatgga ggaaaaatgg 550
 cagctggcat tggtctagag ctttataagg ccattcagcg agggaccatc 600
 aagtgcaact ttgcgggggt tgccttgggt gattcctgga tctcccctgt 650
 tgattcggtg ctctcctggg gaccttacct gtacagcatg tctcttctcg 700
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aagacaaagg tctggcagag gtgtctaagg ttgcagagca agtactgaat 750 qccqtaaata aggggctcta cagagaggcc acagagctgt gggggaaagc 800 aqaaatqatc attgaacaga acacagatgg ggtgaacttc tataacatct 850 taactaaaag cactcccacg tctacaatgg agtcgagtct agaattcaca 900 cagagecace tagtttgtet ttgtcagege caegtgagae acetacaaeg 950 agatgcctta agccagctca tgaatggccc catcagaaag aagctcaaaa 1000 ttattcctga ggatcaatcc tggggaggcc aggctaccaa cgtctttgtg 1050 aacatggagg aggacttcat gaagccagtc attagcattg tggacgagtt 1100 gctggaggca gggatcaacg tgacggtgta taatggacag ctggatctca 1150 tcqtaqatac catqqqtcaq qaqqcctqgg tgcggaaact gaagtggcca 1200 quactoccta autteaque qetquagtgg auggeeetgt acagtgaeee 1250 taaatctttg gaaacatctg cttttgtcaa gtcctacaag aaccttgctt 1300 tctactggat tctgaaagct ggtcatatgg ttccttctga ccaaggggac 1350 atgqctctqa agatgatgag actggtgact cagcaagaat aggatggatg 1400 gggctggaga tgagctggtt tggccttggg gcacagagct gagctgaggc 1450 cgctgaagct gtaggaagcg ccattcttcc ctgtatctaa ctggggctgt 1500 gatcaagaag gttctgacca gcttctgcag aggataaaat cattgtctct 1550 ggaggcaatt tggaaattat ttctgcttct taaaaaaacc taagattttt 1600 taaaaaattg atttgttttg atcaaaataa aggatgataa tagatattaa 1650

<210> 255

<211> 452

<212> PRT

<213> Homo Sapien

<400> 255

Met Glu Leu Ala Leu Arg Arg Ser Pro Val Pro Arg Trp Leu Leu
1 5 10 15

Leu Leu Pro Leu Leu Gly Leu Asn Ala Gly Ala Val Ile Asp 20 25 30

Trp Pro Thr Glu Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val
35 40 45

Arg Lys Asp Ala Tyr Met Phe Trp Trp Leu Tyr Tyr Ala Thr Asn Ser Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln 70 Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu Ile Gly Pro Leu Asp Ser Asp Leu Lys Pro Arg Lys Thr Thr Trp Leu Gln Ala Ala Ser Leu Leu Phe Val Asp Asn Pro Val Gly Thr Gly Phe Ser Tyr Val Asn Gly Ser Gly Ala Tyr Ala Lys Asp Leu Ala Met Val Ala Ser Asp Met Wet Val Leu Leu Lys Thr Phe Phe 140 Ser Cys His Lys Glu Phe Gln Thr Val Pro Phe Tyr Ile Phe Ser Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile Gly Leu Glu Leu Tyr Lys Ala Ile Gln Arg Gly Thr Ile Lys Cys Asn Phe Ala Gly 185 190 Val Ala Leu Gly Asp Ser Trp Ile Ser Pro Val Asp Ser Val Leu Ser Trp Gly Pro Tyr Leu Tyr Ser Met Ser Leu Leu Glu Asp Lys Gly Leu Ala Glu Val Ser Lys Val Ala Glu Gln Val Leu Asn Ala Val Asn Lys Gly Leu Tyr Arg Glu Ala Thr Glu Leu Trp Gly Lys Ala Glu Met Ile Ile Glu Gln Asn Thr Asp Gly Val Asn Phe Tyr 260 Asn Ile Leu Thr Lys Ser Thr Pro Thr Ser Thr Met Glu Ser Ser Leu Glu Phe Thr Gln Ser His Leu Val Cys Leu Cys Gln Arg His 290 295 Val Arg His Leu Gln Arg Asp Ala Leu Ser Gln Leu Met Asn Gly

				305					310					315
Pro	Ile	Arg	Lys	Lys 320	Leu	Lys	Ile	Ile	Pro 325	Glu	Asp	Gln	Ser	Trp 330
Gly	Gly	Gln	Ala	Thr 335	Asn	Val	Phe	Val	Asn 340	Met	Glu	Glu	Asp	Phe 345
Met	Lys	Pro	Val	Ile 350	Ser	Ile	Val	Asp	Glu 355	Leu	Leu	Glu	Ala	Gly 360
Ile	Asn	Val	Thr	Val 365	Tyr	Asn	Gly	Gln	Leu 370	Asp	Leu	Ile	Val	Asp 375
Thr	Met	Gly	Gln	Glu 380	Ala	Trp	Val	Arg	Lys 385	Leu	Lys	Trp	Pro	Glu 390
Leu	Pro	Lys	Phe	Ser 395	Gln	Leu	Lys	Trp	Lys 400	Ala	Leu	Tyr	Ser	Asp 405
Pro	Lys	Ser	Leu	Glu 410	Thr	Ser	Ala	Phe	Val 415	Lys	Ser	Tyr	Lys	Asn 420
Leu	Ala	Phe	Tyr	Trp 425	Ile	Leu	Lys	Ala	Gly 430	His	Met	Val	Pro	Ser 435
Asp	Gln	Gly	Asp	Met 440	Ala	Leu	Lys	Met	Met 445	Arg	Leu	Val	Thr	Gln 450
~ 7	~ 7													

Gln Glu

<210> 256

<211> 1100

<212> DNA

<213> Homo Sapien

<400> 256

ggccgcggga gaggaggca tgggcgcg cggggcgctg ctgctggcg 50
tgctgctggc tcgggctgga ctcaggaagc cggagtcgca ggaggcggcg 100
ccgttatcag gaccatgcgg ccgacgggtc atcacgtcgc gcatcgtggg 150
tggagaggac gccgaactcg ggcgttggcc gtggcagggg agcctgcgcc 200
tgtgggattc ccacgtatgc ggagtgagcc tgctcagcca ccgctgggca 250
ctcacggcgg cgcactgctt tgaaacctat agtgacctta gtgatccctc 300
cgggtggatg gtccagtttg gccagctgac ttccatgcca tccttctgga 350
gcctgcaggc ctactacacc cgttacttcg tatcgaatat ctatctgagc 400

tgcacctgtc acctacacta accatacta gcccatctgt ctccaggcct 500 ccacatttga gtttgagaac cggacagact gctgggtgac tggctggggg 550 tacatcaaag aggatgaggc actgccatct ccccacaccc tccaggaagt 600 tcaggtcgc atcataaaca actctatgtg caaccacctc ttcctaagt 650 acagtttccg caaggacatc tttggagaca tggtttgtg tggcaacgcc 700 caaggcggga aggatgctg cttcggtgac tcaggtggac ccttggcctg 750 tacacaagaat ggactggt atcagattga tcaggtggac ccttggcctg 750 acaggcggga aggatgctg cttcggtgac tcaggtggac ccttggcctg 750 taacaagaat ggactgtgt atcagattgg agtcgtgac tggggagtgg 800 gctgtggtcg gcccaatcgg cccggtgtct acaccaatat cagccaccac 850 tttggagtga tccagaagct gatggcccaa agtggcatgt cccagcaga 900 cccctcctgg ccactactct ttttccctct tctctgggct ctccactcc 950 tgggggccggt ctgagcctac ctgagcccat gcagcctggg gccactgcca 1000 agtcaggccc tggttcttct ctgtcttgtt tggtaataaa cacaatacaaaa 1100

<210> 257

<211> 314

<212> PRT

<213> Homo Sapien

<400> 257

Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg 1 5 10 15

Ala Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser

20 25 30

Gly Pro Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly
35 40 45

Glu Asp Ala Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg
50 55 60

Leu Trp Asp Ser His Val Cys Gly Val Ser Leu Leu Ser His Arg
65 70 75

Trp Ala Leu Thr Ala Ala His Cys Phe Glu Thr Tyr Ser Asp Leu 80 85 90

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Ser Asp Pro Ser Gly Trp Met Val Gln Phe Gly Gln Leu Thr Ser
                                    100
Met Pro Ser Phe Trp Ser Leu Gln Ala Tyr Tyr Thr Arg Tyr Phe
                110
Val Ser Asn Ile Tyr Leu Ser Pro Arg Tyr Leu Gly Asn Ser Pro
                                    130
                125
Tyr Asp Ile Ala Leu Val Lys Leu Ser Ala Pro Val Thr Tyr Thr
                                    145
                140
Lys His Ile Gln Pro Ile Cys Leu Gln Ala Ser Thr Phe Glu Phe
Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Tyr Ile Lys
Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln Glu Val Gln
                                     190
Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe Leu Lys
Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala Gly
Asn Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly
                                     235
Pro Leu Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val
Val Ser Trp Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val
Tyr Thr Asn Ile Ser His His Phe Glu Trp Ile Gln Lys Leu Met
                                     280
                                                         285
                275
Ala Gln Ser Gly Met Ser Gln Pro Asp Pro Ser Trp Pro Leu Leu
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Phe Phe Pro Leu Leu Trp Ala Leu Pro Leu Leu Gly Pro Val
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<210> 258

<211> 2427

<212> DNA

<213> Homo Sapien

<400> 258

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Ser Gly Lys Cys Ser Tyr Ser Pro Glu Pro Asp Gln Arg Arg Thr

<210> 259

<211> 556

<212> PRT

<213> Homo Sapien

<400> 259

Met Gly Leu Gln Ala Cys Leu Leu Gly Leu Phe Ala Leu Ile Leu 1 5 10 15

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Leu	Pro	Pro	Gly	Trp 35	Val	Ser	Leu	Gly	Arg 40	Ala	Asp	Pro	Glu	Glu 45
Glu	Leu	Ser	Leu	Thr 50	Phe	Ala	Leu	Arg	Gln 55	Gln	Asn	Val	Glu	Arg 60
Leu	Ser	Glu	Leu	Val 65	Gln	Ala	Val	Ser	Asp 70	Pro	Ser	Ser	Pro	Gln 75
Tyr	Gly	Lys	Tyr	Leu 80	Thr	Leu	Glu	Asn	Val 85	Ala	Asp	Leu	Val	Arg 90
Pro	Ser	Pro	Leu	Thr 95	Leu	His	Thr	Val	Gln 100	Lys	Trp	Leu	Leu	Ala 105
Ala	Gly	Ala	Gln	Lys 110	Cys	His	Ser	Val	Ile 115	Thr	Gln	Asp	Phe	Leu 120
Thr	Cys	Trp	Leu	Ser 125	Ile	Arg	Gln	Ala	Glu 130	Leu	Leu	Leu	Pro	Gly 135
Ala	Glu	Phe	His	His 140	Tyr	Val	Gly	Gly	Pro 145	Thr	Glu	Thr	His	Val 150
Val	Arg	Ser	Pro	His 155	Pro	Tyr	Gln	Leu	Pro 160	Gln	Ala	Leu	Ala	Pro 165
His	Val	Asp	Phe	Val 170	Gly	Gly	Leu	His	Arg 175	Phe	Pro	Pro	Thr	Ser 180
Ser	Leu	Arg	Gln	Arg 185	Pro	Glu	Pro	Gln	Val 190	Thr	Gly	Thr	Val	Gly 195
Leu	His	Leu	Gly	Val 200	Thr	Pro	Ser	Val	Ile 205	Arg	Lys	Arg	Tyr	Asn 210
Leu	Thr	Ser	Gln	Asp 215	Val	Gly	Ser	Gly	Thr 220	Ser	Asn	Asn	Ser	Gln 225
Ala	Cys	Ala	Gln	Phe 230	Leu	Glu	Gln	Tyr	Phe 235	His	Asp	Ser	Asp	Leu 240
Ala	Gln	Phe	Met	Arg 245	Leu	Phe	Gly	Gly	Asn 250	Phe	Ala	His	Gln	Ala 255
Ser	Val	Ala	Arg	Val 260	Val	Gly	Gln	Gln	Gly 265	Arg	Gly	Arg	Ala	Gly 270
Ile	Glu	Ala	Ser	Leu 275	Asp	Val	Gln	Tyr	Leu 280	Met	Ser	Ala	Gly	Ala 285

Asn	Ile	Ser	Thr	Trp 290	Val	Tyr	Ser	Ser	Pro 295	Gly	Arg	His	Glu	Gly 300
Gln	Glu	Pro	Phe	Leu 305	Gln	Trp	Leu	Met	Leu 310	Leu	Ser	Asn	Glu	Ser 315
Ala	Leu	Pro	His	Val 320	His	Thr	Val	Ser	Tyr 325	Gly	Asp	Asp	Glu	Asp 330
Ser	Leu	Ser	Ser	Ala 335	Tyr	Ile	Gln	Arg	Val 340	Asn	Thr	Glu	Leu	Met 345
Lys	Ala	Ala	Ala	Arg 350	Gly	Leu	Thr	Leu	Leu 355	Phe	Ala	Ser	Gly	Asp 360
Ser	Gly	Ala	Gly	Cys 365	Trp	Ser	Val	Ser	Gly 370	Arg	His	Gln	Phe	Arg 375
Pro	Thr	Phe	Pro	Ala 380	Ser	Ser	Pro	Tyr	Val 385	Thr	Thr	Val	Gly	Gly 390
Thr	Ser	Phe	Gln	Glu 395	Pro	Phe	Leu	Ile	Thr 400	Asn	Glu	Ile	Val	Asp 405
Tyr	Ile	Ser	Gly	Gly 410	Gly	Phe	Ser	Asn	Val 415	Phe	Pro	Arg	Pro	Ser 420
Tyr	Gln	Glu	Glu	Ala 425	Val	Thr	Lys	Phe	Leu 430	Ser	Ser	Ser	Pro	His 435
				440					445				Tyr	450
_				455					460				Asn	465
				470					475				Pro	480
				485					490					Ser 495
				500					505				Gln	510
				515					520				Glu	525
_				530					535				Gly	540
Gly	Trp	Asp	Pro	Val 545	Thr	Gly	Trp	Gly	Thr 550	Pro	Thr	Ser	Gln	Leu 555

Cys

<210> 260

<211> 1638

<212> DNA

<213> Homo Sapien

<400> 260

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<210> 261

<211> 383

<212> PRT

<213> Homo Sapien

<400> 261

Met Ala Gly Ile Pro Gly Leu Leu Phe Leu Leu Phe Phe Leu Leu
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Cys Ala Val Gly Gln Val Ser Pro Tyr Ser Ala Pro Trp Lys Pro 20 25 30

Thr Trp Pro Ala Tyr Arg Leu Pro Val Val Leu Pro Gln Ser Thr 35 40 45

Leu Asn Leu Ala Lys Pro Asp Phe Gly Ala Glu Ala Lys Leu Glu
50 55 60

Val Ser Ser Cys Gly Pro Gln Cys His Lys Gly Thr Pro Leu
65 70 75

Pro Thr Tyr Glu Glu Ala Lys Gln Tyr Leu Ser Tyr Glu Thr Leu 80 85 90

Tyr Ala Asn Gly Ser Arg Thr Glu Thr Gln Val Gly Ile Tyr Ile

95 100 105

Leu Ser Ser Ser Gly Asp Gly Ala Gln His Arg Asp Ser Gly Ser 110 115

Ser	Gly	Lys	Ser	Arg 125	Arg	Lys	Arg	Gln	Ile 130	Tyr	Gly	Tyr	Asp	Ser 135
Arg	Phe	Ser	Ile	Phe 140	Gly	Lys	Asp	Phe	Leu 145	Leu	Asn	Tyr	Pro	Phe 150
Ser	Thr	Ser	Val	Lys 155	Leu	Ser	Thr	Gly	Cys 160	Thr	Gly	Thr	Leu	Val 165
Ala	Glu	Lys	His	Val 170	Leu	Thr	Ala	Ala	His 175	Cys	Ile	His	Asp	Gly 180
Lys	Thr	Tyr	Val	Lys 185	Gly	Thr	Gln	Lys	Leu 190	Arg	Val	Gly	Phe	Leu 195
Lys	Pro	Lys	Phe	Lys 200	Asp	Gly	Gly	Arg	Gly 205	Ala	Asn	Asp	Ser	Thr 210
Ser	Ala	Met	Pro	Glu 215	Gln	Met	Lys	Phe	Gln 220	Trp	Ile	Arg	Val	Lys 225
Arg	Thr	His	Val	Pro 230	Lys	Gly	Trp	Ile	Lys 235	Gly	Asn	Ala	Asn	Asp 240
Ile	Gly	Met	Asp	Tyr 245	Asp	Tyr	Ala	Leu	Leu 250	Glu	Leu	Lys	Lys	Pro 255
His	Lys	Arg	Lys	Phe 260	Met	Lys	Ile	Gly	Val 265	Ser	Pro	Pro	Ala	Lys 270
Gln	Leu	Pro	Gly	Gly 275	Arg	Ile	His	Phe	Ser 280	Gly	Tyr	Asp	Asn	Asp 285
Arg	Pro	Gly	Asn	Leu 290	Val	Tyr	Arg	Phe	Cys 295	Asp	Val	Lys	Asp	Glu 300
Thr	Tyr	Asp	Leu	Leu 305	Tyr	Gln	Gln	Cys	Asp 310	Ala	Gln	Pro	Gly	Ala 315
Ser	Gly	Ser	Gly	Val 320	Tyr	Val	Arg	Met	Trp 325	Lys	Arg	Gln	Gln	Gln 330
Lys	Trp	Glu	Arg	Lys 335	Ile	Ile	Gly	Ile	Phe 340	Ser	Gly	His	Gln	Trp 345
Val	Asp	Met	Asn	Gly 350	Ser	Pro	Gln	Asp	Phe 355	Asn	Val	Ala	Val	Arg 360
Ile	Thr	Pro	Leu	Lys 365	Tyr	Ala	Gln	Ile	Cys 370	Tyr	Trp	Ile	Lys	Gly 375
Asn	Tyr	Leu	Asp	Cys 380	Arg	Glu	Gly							

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<213> Homo Sapien

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tectagggeg cagegggaeg egggetegg atetgaaagg eggeeagate 1050

cacatetgga tetggatetg eggeggeete gggeggttte ceeegeegta 1100

aataggetea tetaceteta eetetggggg eeeggaegge tgetgeggaa 1150

<211> 1378

<212> DNA

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- <211> 317
- <212> PRT
- <213> Homo Sapien
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- Gly Thr Phe Thr Ser Leu Leu Leu Leu Ala Ser Thr Ala Ile Leu 20 25 30
- Asn Ala Ala Arg Ile Pro Val Pro Pro Ala Cys Gly Lys Pro Gln
 35 40 45
- Gln Leu Asn Arg Val Val Gly Gly Glu Asp Ser Thr Asp Ser Glu
 50 55 60
- Trp Pro Trp Ile Val Ser Ile Gln Lys Asn Gly Thr His His Cys $$ 65 $$ 70 $$ 75
- Ala Gly Ser Leu Leu Thr Ser Arg Trp Val Ile Thr Ala Ala His
 80 85 90
- Cys Phe Lys Asp Asn Leu Asn Lys Pro Tyr Leu Phe Ser Val Leu 95 100 105
- Leu Gly Ala Trp Gln Leu Gly Asn Pro Gly Ser Arg Ser Gln Lys
 110 115 120
- Val Gly Val Ala Trp Val Glu Pro His Pro Val Tyr Ser Trp Lys 125 130 135
- Glu Gly Ala Cys Ala Asp Ile Ala Leu Val Arg Leu Glu Arg Ser 140 145 150
- Ile Gln Phe Ser Glu Arg Val Leu Pro Ile Cys Leu Pro Asp Ala 155 160 165
- Ser Ile His Leu Pro Pro Asn Thr His Cys Trp Ile Ser Gly Trp
 170 175 180

<211> 24

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Gln Lys Leu Lys Val Pro Ile Ile Asp Ser Glu Val Cys Ser His
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                 200
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Leu Cys Ala Gly Tyr Leu Glu Gly Glu Arg Asp Ala Cys Leu Gly
                 230
Asp Ser Gly Gly Pro Leu Met Cys Gln Val Asp Gly Ala Trp Leu
                                     250
Leu Ala Gly Ile Ile Ser Trp Gly Glu Gly Cys Ala Glu Arg Asn
                 260
Arg Pro Gly Val Tyr Ile Ser Leu Ser Ala His Arg Ser Trp Val
                                      280
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<211> 25
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<400> 268
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<211> 50
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<400> 270
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cagccctgcc acatgtgc 18
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<400> 274
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<223> Synthetic Oligonucleotide Probe
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<213> Homo Sapien
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 ccgctactgc tactgctggt ggccaccaca ggccccgttg gagccctcac 100
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<211> 463

<212> PRT

<213> Homo Sapien

<400> 285

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Glu Glu Lys Arg Leu Met Val Glu Leu His Asn Leu Tyr Arg Ala \$35\$ 40 45

Gln Val Ser Pro Thr Ala Ser Asp Met Leu His Met Arg Trp Asp
50 55 60

Glu Glu Leu Ala Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys Val 65 70 75

Trp Gly His Asn Lys Glu Arg Gly Arg Gly Glu Asn Leu Phe
80 85 90

Ala Ile Thr Asp Glu Gly Met Asp Val Pro Leu Ala Met Glu Glu 95 100 105

Trp His His Glu Arg Glu His Tyr Asn Leu Ser Ala Ala Thr Cys
110 115 120

Ser Pro Gly Gln Met Cys Gly His Tyr Thr Gln Val Val Trp Ala 125 130 135

Lys	Thr	Glu	Arg	Ile 140	Gly	Cys	Gly	Ser	His 145	Phe	Cys	Glu	Lys	Leu 150
Gln	Gly	Val	Glu	Glu 155	Thr	Asn	Ile	Glu	Leu 160	Leu	Val	Cys	Asn	Tyr 165
Glu	Pro	Pro	Gly	Asn 170	Val	Lys	Gly	Lys	Arg 175	Pro	Tyr	Gln	Glu	Gly 180
Thr	Pro	Cys	Ser	Gln 185	Cys	Pro	Ser	Gly	Tyr 190	His	Cys	Lys	Asn	Ser 195
Leu	Cys	Glu	Pro	Ile 200	Gly	Ser	Pro	Glu	Asp 205	Ala	Gln	Asp	Leu	Pro 210
Tyr	Leu	Val	Thr	Glu 215	Ala	Pro	Ser	Phe	Arg 220	Ala	Thr	Glu	Ala	Ser 225
Asp	Ser	Arg	Lys	Met 230	Gly	Thr	Pro	Ser	Ser 235	Leu	Ala	Thr	Gly	Ile 240
Pro	Ala	Phe	Leu	Val 245	Thr	Glu	Val	Ser	Gly 250	Ser	Leu	Ala	Thr	Lys 255
Ala	Leu	Pro	Ala	Val 260	Glu	Thr	Gln	Ala	Pro 265	Thr	Ser	Leu	Ala	Thr 270
Lys	Asp	Pro	Pro	Ser 275	Met	Ala	Thr	Glu	Ala 280	Pro	Pro	Cys	Val	Thr 285
Thr	Glu	Val	Pro	Ser 290	Ile	Leu	Ala	Ala	His 295	Ser	Leu	Pro	Ser	Leu 300
Asp	Glu	Glu	Pro	Val 305	Thr	Phe	Pro	Lys	Ser 310	Thr	His	Val	Pro	Ile 315
Pro	Lys	Ser	Ala	Asp 320	Lys	Val	Thr	Asp	Lys 325	Thr	Lys	Val	Pro	Ser 330
Arg	Ser	Pro	Glu	Asn 335	Ser	Leu	Asp	Pro	Lys 340	Met	Ser	Leu	Thr	Gly 345
Ala	Arg	Glu	Leu	Leu 350	Pro	His	Ala	Gln	Glu 355	Glu	Ala	Glu	Ala	Glu 360
Ala	Glu	Leu	Pro	Pro 365	Ser	Ser	Glu	Val	Leu 370	Ala	Ser	Val	Phe	Pro 375
Ala	Gln	Asp	Lys	Pro 380	Gly	Glu	Leu	Gln	Ala 385	Thr	Leu	Asp	His	Thr 390
Gly	His	Thr	Ser	Ser 395	Lys	Ser	Leu	Pro	Asn 400	Phe	Pro	Asn	Thr	Ser 405

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 Ser Leu Pro Gly Ala Glu Gly Pro Asp Lys Pro Ser Val Val Ser
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 Gly Leu Asn Ser Gly Pro Gly His Val Trp Gly Pro Leu Leu Gly
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<212> DNA
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<210> 290

<211> 1059

<212> PRT

<213> Homo Sapien

<400> 290

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Ala	Asn	Ile	Thr	Leu 65	Leu	Ser	Leu	Ala	Gly 70	Asn	Arg	Ile	Val	Glu 75
Ile	Leu	Pro	Glu	His 80	Leu	Lys	Glu	Phe	Gln 85	Ser	Leu	Glu	Thr	Leu 90
Asp	Leu	Ser	Ser	Asn 95	Asn	Ile	`Ser	Glu	Leu 100	Gln	Thr	Ala	Phe	Pro 105
Ala	Leu	Gln	Leu	Lys 110	Tyr	Leu	Tyr	Leu	Asn 115	Ser	Asn	Arg	Val	Thr 120
Ser	Met	Glu	Pro	Gly 125	Tyr	Phe	Asp	Asn	Leu 130	Ala	Asn	Thr	Leu	Leu 135
Val	Leu	Lys	Leu	Asn 140	Arg	Asn	Arg	Ile	Ser 145	Ala	Ile	Pro	Pro	Lys 150
Met	Phe	Lys	Leu		Gln	Leu	Gln	His		Glu	Leu	Asn	Arg	
				155					160					165
Lys	Ile	Lys	Asn	Val 170	Asp	Gly	Leu	Thr	Phe 175	Gln	Gly	Leu	Gly	Ala 180
Leu	Lys	Ser	Leu	Lys 185	Met	Gln	Arg	Asn	Gly 190	Val	Thr	Lys	Leu	Met 195
Asp	Gly	Ala	Phe	Trp 200	Gly	Leu	Ser	Asn	Met 205	Glu	Ile	Leu	Gln	Leu 210
Asp	His	Asn	Asn	Leu 215	Thr	Glu	Ile	Thr	Lys 220	Gly	Trp	Leu	Tyr	Gly 225
Leu	Leu	Met	Leu	Gln 230	Glu	Leu	His	Leu	Ser 235	Gln	Asn	Ala	Ile	Asn 240
Arg	Ile	Ser	Pro	Asp 245	Ala	Trp	Glu	Phe	Cys 250	Gln	Lys	Leu	Ser	Glu 255
Leu	Asp	Leu	Thr	Phe 260	Asn	His	Leu	Ser	Arg 265	Leu	Asp	Asp	Ser	Ser 270
Phe	Leu	Gly	Leu	Ser 275	Leu	Leu	Asn	Thr	Leu 280	His	Ile	Gly	Asn	Asn 285
Arg	Val	Ser	Tyr	Ile	Ala	Asp	Cys	Ala	Phe	Arg	Gly	Leu	Ser	Ser

	290		295			300
Leu Lys Thr Le	eu Asp Leu 305	Lys Asn	Asn Glu 310	Ile Ser	Trp Thr	Ile 315
Glu Asp Met A	sn Gly Ala 320	Phe Ser	Gly Leu 325	Asp Lys	Leu Arg	Arg 330
Leu Ile Leu G	ln Gly Asn 335	Arg Ile	Arg Ser 340	Ile Thr	Lys Lys	Ala 345
Phe Thr Gly L	eu Asp Ala 350	Leu Glu	His Leu 355	Asp Leu	Ser Asp	Asn 360
Ala Ile Met So	er Leu Gln 365	Gly Asn	Ala Phe 370	Ser Gln	Met Lys	Lys 375
Leu Gln Gln L	eu His Leu 380	Asn Thr	Ser Ser 385	Leu Leu	Cys Asp	Cys 390
Gln Leu Lys T	rp Leu Pro 395	Gln Trp	Val Ala 400	Glu Asn	Asn Phe	Gln 405
Ser Phe Val A	sn Ala Ser 410	Cys Ala	His Pro 415	Gln Leu	Leu Lys	Gly 420
Arg Ser Ile P	he Ala Val 425	Ser Pro	Asp Gly 430	Phe Val	Cys Asp	Asp 435
Phe Pro Lys P	ro Gln Ile 440	Thr Val	Gln Pro 445	Glu Thr	Gln Ser	Ala 450
Ile Lys Gly S	er Asn Leu 455	Ser Phe	Ile Cys 460	Ser Ala	Ala Ser	Ser 465
Ser Asp Ser P	ro Met Thr	Phe Ala	Trp Lys	Lys Asp	Asn Glu	Leu
	470		475			480
Leu His Asp A	la Glu Met 485	Glu Asn	Tyr Ala 490	His Leu	Arg Ala	Gln 495
Gly Gly Glu V	al Met Glu 500	Tyr Thr	Thr Ile 505		Leu Arg	Glu 510
Val Glu Phe A	la Ser Glu 515	Gly Lys	Tyr Gln 520		Ile Ser	Asn 525
His Phe Gly S	er Ser Tyr 530	Ser Val	Lys Ala 535		Thr Val	Asn 540
Met Leu Pro S	er Phe Thr 545	Lys Thr	Pro Met 550		Thr Ile	Arg 555

Ala	Gly	Ala	Met	Ala 560	Arg	Leu	Glu	Cys	Ala 565	Ala	Val	Gly	His	Pro 570
Ala	Pro	Gln	Ile	Ala 575	Trp	Gln	Lys	Asp	Gly 580	Gly	Thr	Asp	Phe	Pro 585
Ala	Ala	Arg	Glu	Arg 590	Arg	Met	His	Val	Met 595	Pro	Glu	Asp	Asp	Val 600
Phe	Phe	Ile	Val	Asp 605	Val	Lys	Ile	Glu	Asp 610	Ile	Gly	Val	Tyr	Ser 615
Cys	Thr	Ala	Gln	Asn 620	Ser	Ala	Gly	Ser	Ile 625	Ser	Ala	Asn	Ala	Thr 630
Leu	Thr	Val	Leu	Glu 635	Thr	Pro	Ser	Phe	Leu 640	Arg	Pro	Leu	Leu	Asp 645
Arg	Thr	Val	Thr	Lys 650	Gly	Glu	Thr	Ala	Val 655	Leu	Gln	Cys	Ile	Ala 660
Gly	Gly	Ser	Pro	Pro 665	Pro	Lys	Leu	Asn	Trp 670	Thr	Lys	Asp	Asp	Ser 675
Pro	Leu	Val	Val	Thr 680	Glu	Arg	His	Phe	Phe 685	Ala	Ala	Gly	Asn	Gln 690
Leu	Leu	Ile	Ile	Val 695	Asp	Ser	Asp	Val	Ser 700	Asp	Ala	Gly	Lys	Tyr 705
Thr	Cys	Glu	Met	Ser 710	Asn	Thr	Leu	Gly	Thr 715	Glu	Arg	Gly	Asn	Val 720
Arg	Leu	Ser	Val	Ile 725	Pro	Thr	Pro	Thr	Cys 730	Asp	Ser	Pro	Gln	Met 735
Thr	Ala	Pro	Ser	Leu 740	Asp	Asp	Asp	Gly	Trp 745	Ala	Thr	Val	Gly	Val 750
Val	Ile	Ile	Ala	Val 755	Val	Сув	Cys	Val	Val 760	Gly	Thr	Ser	Leu	Val 765
Trp	Val	Val	Ile	Ile 770	Tyr	His	Thr	Arg	Arg 775	Arg	Asn	Glu	Asp	Cys 780
Ser	Ile	Thr	Asn	Thr 785		Glu	Thr	Asn	Leu 790	Pro	Ala	Asp	Ile	Pro 795
Ser	Tyr	Leu	. Ser		Gln	Gly	Thr	Leu		Asp	Arg	Gln	Asp	

Tyr Val Ser Ser Glu Ser Gly Ser His His Gln Phe Val Thr Ser Ser Gly Ala Gly Phe Phe Leu Pro Gln His Asp Ser Ser Gly Thr Cys His Ile Asp Asn Ser Ser Glu Ala Asp Val Glu Ala Ala Thr Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr 865 Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 880 Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 895 890 Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 925 930 920 Pro Ser His Val Arg Lys Leu Leu Asn Thr Ser Tyr Ser His Asn 935 Glu Gly Pro Gly Met Lys Asn Leu Cys Leu Asn Lys Ser Ser Leu Asp Phe Ser Ala Asn Pro Glu Pro Ala Ser Val Ala Ser Ser Asn 965 970 Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu 980 Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1005 995 Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1015 Ser Glu Glu Asp Gly Lys Glu Arg Thr Asp Phe Gln Glu Glu Asn 1030 1025 His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1045 1050 1040 Asn Phe Gln Ser Tyr Asp Leu Asp Thr

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<212> PRT

<213> Homo Sapien

<400> 292

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Leu Ala Leu Gl
n Leu Leu Val Val Ala Gly Leu Val Arg Ala Gl
n \$35\$ 40 \$45\$

Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val
50 55 60

Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser
65 70 75

Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile 80 85 90

Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu
95 100 105

Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe 110 115 120

Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg 125 130 135

Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu 140 145 150

Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser

				155					160					165
Tyr	Ala	Phe	Asn	Arg 170	Ile	Pro	Ser	Leu	Arg 175	Arg	Leu	Asp	Leu	Gly 180
Glu	Leu	Lys	Arg	Leu 185	Ser	Tyr	Ile	Ser	Glu 190	Gly	Ala	Phe	Glu	Gly 195
Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
Gly	Leu	Met	His	Leu 245	Gln	Lys	Leu	Trp	Met 250	Ile	Gln	Ser	Gln	Ile 255
Gln	Val	Ile	Glu	Arg 260	Asn	Ala	Phe	Asp	Asn 265	Leu	Gln	Ser	Leu	Val 270
Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295	Ile	His	Leu	His	His 300
Asn	Pro	Trp	Asn	Cys 305	Asn	Cys	Asp	Ile	Leu 310	Trp	Leu	Ser	Trp	Trp 315
Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325		Cys	Ala	Arg	Cys 330
Asn	Thr	Pro	Pro	Asn 335	Leu	Lys	Gly	Arg	Tyr 340		Gly	Glu	Leu	Asp 345
Gln	Asn	Tyr	Phe	Thr 350	Cys	Tyr	Ala	Pro	Val 355		Val	Glu	Pro	Pro 360
Ala	Asp	Leu	. Asn	Val 365		Glu	Gly	Met	Ala 370		Glu	Leu	Lys	Cys 375
Arg	Ala	Ser	Thr	Ser 380	Leu	Thr	Ser	Val	Ser 385		Ile	Thr	Pro	Asr 390
Gly	Thr	Val	. Met	Thr 395		Gly	Ala	. Tyr	Lys 400		Arg	Ile	: Ala	Val 405
Leu	. Ser	Asp	Gly	Thr 410		Asn	Phe	Thr	Asn 415		. Thr	Val	Gln	Asp 420

Thr	Gly	Met	Tyr	Thr 425	Cys	Met	Val	Ser	Asn 430	Ser	Val	Gly	Asn	Thr 435
Thr	Ala	Ser	Ala	Thr 440	Leu	Asn	Val	Thr	Ala 445	Ala	Thr	Thr	Thr	Pro 450
Phe	Ser	Tyr	Phe	Ser 455	Thr	Val	Thr	Val	Glu 460	Thr	Met	Glu	Pro	Ser 465
Gln	Asp	Glu	Ala	Arg 470	Thr	Thr	Asp	Asn	Asn 475	Val	Gly	Pro	Thr	Pro 480
Val	Val	Asp	Trp	Glu 485	Thr	Thr	Asn	Val	Thr 490	Thr	Ser	Leu	Thr	Pro 495
Gln	Ser	Thr	Arg	Ser 500	Thr	Glu	Lys	Thr	Phe 505	Thr	Ile	Pro	Val	Thr 510
Asp	Ile	Asn	Ser	Gly 515	Ile	Pro	Gly	Ile	Asp 520	Glu	Val	Met	Lys	Thr 525
Thr	Lys	Ile	Ile	Ile 530	Gly	Cys	Phe	Val	Ala 535	Ile	Thr	Leu	Met	Ala 540
Ala	Val	Met	Leu	Val 545	Ile	Phe	Tyr	Lys	Met 550	Arg	Lys	Gln	His	His 555
Arg	Gln	Asn	His	His 560	Ala	Pro	Thr	Arg	Thr 565	Val	Glu	Ile	Ile	Asn 570
Val	Asp	Asp	Glu	Ile 575		Gly	Asp	Thr	Pro 580	Met	Glu	Ser	His	Leu 585
Pro	Met	Pro	Ala	Ile 590	Glu	His	Glu	His	Leu 595	Asn	His	Tyr	Asn	Ser 600
Tyr	Lys	Ser	Pro	Phe 605		His	Thr	Thr	Thr 610	Val	Asn	Thr	Ile	Asn 615
Ser	Ile	His	Ser	Ser 620		His	Glu	Pro	Leu 625		Ile	Arg	Met	Asn 630
Ser	Lys	Asp	Asn	Val 635		Glu	Thr	Gln	1le 640					

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<212> DNA

<213> Homo Sapien

<400> 293

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<400> 294

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Gly Arg Gly Glu Leu Gly Gln Pro Ser Gly Val Ala Ala Glu Arg 35 40 45

Pro Cys Pro Thr Thr Cys Arg Cys Leu Gly Asp Leu Leu Asp Cys 50 55 60

Ser Arg Lys Arg Leu Ala Arg Leu Pro Glu Pro Leu Pro Ser Trp
65 70 75

Val Ala Arg Leu Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys 80 85 90

Ala Ser Ser Met Ser His Leu Gln Ser Leu Arg Glu Val Lys Leu 95 100 105

Asn Asn Asn Glu Leu Glu Thr Ile Pro Asn Leu Gly Pro Val Ser 110 115 120

Ala Asn Ile Thr Leu Leu Ser Leu Ala Gly Asn Arg Ile Val Glu 125 130 135

Ile Leu Pro Glu His Leu Lys Glu Phe Gln Ser Leu Glu Thr Leu 140 145 150

Asp Leu Ser Ser Asn Asn Ile Ser Glu Leu Gln Thr Ala Phe Pro 155 160 165

Ala Leu Gln Leu Lys Tyr Leu Tyr Leu Asn Ser Asn Arg Val Thr 170 175 180

Ser Met Glu Pro Gly Tyr Phe Asp Asn Leu Ala Asn Thr Leu Leu 185 190 195

Val Leu Lys Leu Asn Arg Asn Arg Ile Ser Ala Ile Pro Pro Lys 200 205 210

Met Phe Lys Leu Pro Gln Leu Gln His Leu Glu Leu Asn Arg Asn

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Lys	Ile	Lys	Asn	Val 230	Asp	Gly	Leu	Thr	Phe 235	Gln	Gly	Leu	Gly	Ala 240
Leu	Lys	Ser	Leu	Lys 245	Met	Gln	Arg	Asn	Gly 250	Val	Thr	Lys	Leu	Met 255
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<212> PRT

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Gly Val Arg Gly Gln Ala Leu Tyr Leu Pro Val His Tyr Gly Phe 35 40 45

His Thr Pro Ala Ser Asp Ile Gln Ile Ile Trp Leu Phe Glu Arg
50 55 60

Pro	His	Thr	Met	Pro 65	Lys	Tyr	Leu	Leu	Gly 70	Ser	Val	Asn	Lys	Ser 75
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Pro	Asn	Ala	Ser	Leu 95	Leu	Ile	Asn	Pro	Leu 100	Gln	Phe	Pro	Asp	Glu 105
Gly	Asn	Tyr	Ile	Val 110	Lys	Val	Asn	Ile	Gln 115	Gly	Asn	Gly	Thr	Leu 120
Ser	Ala	Ser	Gln	Lys 125	Ile	Gln	Val	Thr	Val 130	Asp	Asp	Pro	Val	Thr 135
Lys	Pro	Val	Val	Gln 140	Ile	His	Pro	Pro	Ser 145	Gly	Ala	Val	Glu	Tyr 150
Val	Gly	Asn	Met	Thr 155	Leu	Thr	Cys	His	Val 160	Glu	Gly	Gly	Thr	Arg 165
Leu	Ala	Tyr	Gln	Trp 170	Leu	Lys	Asn	Gly	Arg 175	Pro	Val	His	Thr	Ser 180
Ser	Thr	Tyr	Ser	Phe 185	Ser	Pro	Gln	Asn	Asn 190	Thr	Leu	His	Ile	Ala 195
Pro	Val	Thr	Lys	Glu 200	Asp	Ile	Gly	Asn	Tyr 205	Ser	Cys	Leu	Val	Arg 210
Asn	Pro	Val	Ser	Glu 215	Met	Glu	Ser	Asp	Ile 220	Ile	Met	Pro	Ile	Ile 225
Tyr	Tyr	Gly	Pro	Tyr 230	Gly	Leu	Gln	Val	Asn 235	Ser	Asp	Lys	Gly	Leu 240
Lys	Val	Gly	Glu	Val 245	Phe	Thr	Val	Asp	Leu 250	Gly	Glu	Ala	Ile	Leu 255
Phe	Asp	Cys	Ser	Ala 260	Asp	Ser	His	Pro	Pro 265	Asn	Thr	Tyr	Ser	Trp 270
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Arg	Leu	Glu	Val	Ala 290	Ser	Glu	Lys	Val	Ala 295	Gln	Lys	Thr	Met	Asp 300
Tyr	Val	Cys	Cys	Ala 305	Tyr	Asn	Asn	Ile	Thr 310	Gly	Arg	Gln	Asp	Glu 315
Thr	His	Phe	Thr	Val	Ile	Ile	Thr	Ser	Val	Gly	Leu	Glu	Lys	Leu

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Ile S	er	Leu	Phe	Leu 350	Ile	Ile	Ser	Met	Cys 355	Leu	Leu	Phe	Leu	Trp 360
Lys L	ys	Tyr	Gln	Pro 365	Tyr	Lys	Val	Ile	Lys 370	Gln	Lys	Leu	Glu	Gly 375
Arg P	ro	Glu	Thr	Glu 380	Tyr	Arg	Lys	Ala	Gln 385	Thr	Phe	Ser	Gly	His 390
Glu A	sp	Ala	Leu	Asp 395	Asp	Phe	Gly	Ile	Tyr 400	Glu	Phe	Val	Ala	Phe 405
Pro A	ga	Val	Ser	Gly 410	Val	Ser	Arg	Ile	Pro 415	Ser	Arg	Ser	Val	Pro 420
Ala S	er	Asp	Cys	Val 425	Ser	Gly	Gln	Asp	Leu 430	His	Ser	Thr	Val	Tyr 435
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cctagttaaa ttttatagtt atcttaatat tatgattttg ataaaaacag 900

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Val Arg Val Ile Thr Asp Glu Asn Trp Arg Glu Leu Leu Glu Gly
35 40 45

Asp Trp Met Ile Glu Phe Tyr Ala Pro Trp Cys Pro Ala Cys Gln 50 55 60

Asn Leu Gln Pro Glu Trp Glu Ser Phe Ala Glu Trp Gly Glu Asp
65 70 75

Leu Glu Val Asn Ile Ala Lys Val Asp Val Thr Glu Gln Pro Gly 80 85 90

Leu Ser Gly Arg Phe Ile Ile Thr Ala Leu Pro Thr Ile Tyr His
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Cys Lys Asp Gly Glu Phe Arg Arg Tyr Gln Gly Pro Arg Thr Lys 110 115 120

Lys Asp Phe Ile Asn Phe Ile Ser Asp Lys Glu Trp Lys Ser Ile 125 130 135

Glu Pro Val Ser Ser Trp Phe Gly Pro Gly Ser Val Leu Met Ser 140 145 150

Ser Met Ser Ala Leu Phe Gln Leu Ser Met Trp Ile Arg Thr Cys 155 160 165

His Asn Tyr Phe Ile Glu Asp Leu Gly Leu Pro Val Trp Gly Ser 170 175 180

Tyr Thr Val Phe Ala Leu Ala Thr Leu Phe Ser Gly Leu Leu Leu 185 190 195

Gly Leu Cys Met Ile Phe Val Ala Asp Cys Leu Cys Pro Ser Lys 200 205 210

Arg Arg Pro Gln Pro Tyr Pro Tyr Pro Ser Lys Lys Leu Leu

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Ala A	Asp (Glu	Glu	Asp 245	Val	Ser	Glu	Glu	Glu 250	Ala	Glu	Ser	Lys	Glu 255
Gly :	Thr I	Asn	Lys	Asp 260	Phe	Pro	Gln	Asn	Ala 265	Ile	Arg	Gln	Arg	Ser 270
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Thr Asp Leu Ile Tyr Ala Glu Lys Glu Leu Val Gln Ser Leu Lys 35 40 45

Glu Tyr Ile Leu Val Glu Glu Ala Lys Leu Ser Lys Ile Lys Ser 50 55 60

Trp Ala Asn Lys Met Glu Ala Leu Thr Ser Lys Ser Ala Ala Asp 657075

Ala Glu Gly Tyr Leu Ala His Pro Val Asn Ala Tyr Lys Leu Val 80 85 90

Lys Arg Leu Asn Thr Asp Trp Pro Ala Leu Glu Asp Leu Val Leu 95 100 105

Gln Asp Ser Ala Ala Gly Phe Ile Ala Asn Leu Ser Val Gln Arg

Gln Phe Phe Pro Thr Asp Glu Asp Glu Ile Gly Ala Ala Lys Ala 125 130 135

Leu Met Arg Leu Gln Asp Thr Tyr Arg Leu Asp Pro Gly Thr Ile 140 145 150

Ser Arg Gly Glu Leu Pro Gly Thr Lys Tyr Gln Ala Met Leu Ser 155 160 165

Val Asp Asp Cys Phe Gly Met Gly Arg Ser Ala Tyr Asn Glu Gly
170 175 180

Asp Tyr Tyr His Thr Val Leu Trp Met Glu Gln Val Leu Lys Gln
185 190 195

Leu Asp Ala Gly Glu Glu Ala Thr Thr Thr Lys Ser Gln Val Leu 200 205 210

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Glu	Arg	Ala	Gly	Gly 245	Asn	Leu	Arg	Tyr	Phe 250	Glu	Gln	Leu	Leu	Glu 255
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Asp	Asp	Pro	Val	Val 395	Ala	Arg	Val	Asn	Arg 400	Arg	Met	Gln	His	Ile 405
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Arg	Pro	Phe	Asp	Ser 440	Gly	Leu	Lys	Thr	Glu 445	Gly	Asn	Arg	Leu	Ala 450
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Val	Phe	Pro	Asp	Leu 470		Ala	Ala	Ile	Trp 475		Lys	Lys	Gly	Thr 480

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Tyr Arg Asp Pro Asn Lys Pro Tyr Lys Lys Val Leu Arg Thr Arg 80 85 90

Tyr Ile Gln Thr Glu Leu Gly Ser Arg Glu Arg Leu Leu Val Ala

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His	Leu	His	Thr	His 170	Phe	Gly	Ala	Asp	Tyr 175	Asp	Trp	Phe	Phe	Ile 180
Met	Gln	Asp	Asp	Thr 185	Tyr	Val	Gln	Ala	Pro 190	Arg	Leu	Ala	Ala	Leu 195
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Glu	Glu	Phe	Ile	Gly 215	Ala	Gly	Glu	Gln	Ala 220	Arg	Tyr	Cys	His	Gly 225
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Pro	Lys	Cys	Pro	Leu 395	Gln	Gly	Ala	Ser	Arg 400	Ala	Asp	Val	Gly	Asp 405
Ala	Leu	Glu	Thr	Ala 410	Leu	Glu	Gln	Leu	Asn 415	Arg	Arg	Tyr	Gln	Pro 420
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Phe	Asp	Pro	Ala	Arg 440	Gly	Met	Glu	Tyr	Thr 445	Leu	Asp	Leu	Leu	Leu 450
Glu	Cys	Val	Thr	Gln 455	Arg	Gly	His	Arg	Arg 460	Ala	Leu	Ala	Arg	Arg 465
Val	Ser	Leu	Leu	Arg 470	Pro	Leu	Ser	Arg	Val 475	Glu	Ile	Leu	Pro	Met 480
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Pro	Glu	Val	Leu	Asn 605	Arg	Cys	Arg	Met	Asn 610	Ala	Ile	Ser	Gly	Trp 615
Gln	Ala	Phe	Phe	Pro 620	Val	His	Phe	Gln	Glu 625	Phe	Asn	Pro	Ala	Leu 630

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Asp	Val	Phe	Leu	Arg 710	Phe	Ser	Gly	Leu	His 715	Leu	Phe	Arg	Ala	Val 720
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catcatcacc tacaagctcc taacaaagaa gatatcttga aaatttcaga 250
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Ala	Pro	Asn	Lys	Glu 50	Asp	Ile	Leu	Lys	Ile 55	Ser	Glu	Asp	Glu	Arg 60
Met	Glu	Leu	Ser	Lys 65	Ser	Phe	Arg	Val	Tyr 70	Cys	Ile	Ile	Leu	Val 75
Lys	Pro	Lys	Asp	Val 80	Ser	Leu	Trp	Ala	Ala 85	Val	Lys	Glu	Thr	Trp 90
Thr	Lys	His	Cys	Asp 95	Lys	Ala	Glu	Phe	Phe 100	Ser	Ser	Glu	Asn	Val 105
Lys	Val	Phe	Glu	Ser 110	Ile	Asn	Met	Asp	Thr 115	Asn	Asp	Met	Trp	Leu 120
Met	Met	Arg	Lys	Ala 125	Tyr	Lys	Tyr	Ala	Phe 130	Asp	Lys	Tyr	Arg	Asp 135
Gln	Tyr	Asn	Trp	Phe 140	Phe	Leu	Ala	Arg	Pro 145	Thr	Thr	Phe	Ala	Ile 150
Ile	Glu	Asn	Leu	Lys 155	Tyr	Phe	Leu	Leu	Lys 160	Lys	Asp	Pro	Ser	Gln 165
Pro	Phe	Tyr	Leu	Gly 170	His	Thr	Ile	Lys	Ser 175	Gly	Asp	Leu	Glu	Tyr 180
Val	Gly	Met	Glu	Gly 185	Gly	Ile	Val	Leu	Ser 190	Val	Glu	Ser	Met	Lys 195
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Gly	Gly	Met	Ile	Trp 215	Lys	Ile	Ser	Glu	Asp 220	Lys	Gln	Leu	Ala	Val 225
Cys	Leu	Lys	Tyr	Ala 230	Gly	Val	Phe	Ala	Glu 235	Asn	Ala	Glu	Asp	Ala 240
Asp	Gly	Lys	Asp	Val 245	Phe	Asn	Thr	Lys	Ser 250	Val	Gly	Leu	Ser	Ile 255
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tgcttctctt cccaaatgtt cttatggact gttgctggga tccccatcct 200
atttctcagt gcctgtttca tcaccagatg tgttgtgaca tttcgcatct 250
ttcaaacctg tgatgagaaa aagtttcagc tacctgagaa tttcacagag 300
ctctcctgct acaattatgg atcaggttca gtcaagaatt gttgtccatt 350
gaactgggaa tattttcaat ccagctgcta cttcttttct actgacacca 400
tttcctgggc gttaagttta aagaactgct cagccatggg ggctcacctg 450
taaaatgaga gagttttta ttggactgtc agaccaggtt gtcgagggtc 550
agtggcaatg ggtggacggc acacctttga caaagtctct gagcttctgg 600
gatgtagggg agcccaacaa catagctacc ctggaggact gtgccaccat 650
gagagactct tcaaacccaa ggcaaaattg gaatgatgta acctgtttcc 700
tcaattattt tcggatttgt gaaatggtag gaataaatcc tttgaacaaa 750
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<211> 219

<212> PRT

<213> Homo Sapien

<400> 377

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Cys Phe Ser Ser Gln Met Phe Leu Trp Thr Val Ala Gly Ile Pro $20 \\ 25 \\ 30$

Ile Leu Phe Leu Ser Ala Cys Phe Ile Thr Arg Cys Val Val Thr 35 40 45

Phe Arg Ile Phe Gln Thr Cys Asp Glu Lys Lys Phe Gln Leu Pro 50 55 60

Glu Asn Phe Thr Glu Leu Ser Cys Tyr Asn Tyr Gly Ser Gly Ser
65 70 75

Val Lys Asn Cys Cys Pro Leu Asn Trp Glu Tyr Phe Gln Ser Ser 80 85 90

Cys Tyr Phe Phe Ser Thr Asp Thr Ile Ser Trp Ala Leu Ser Leu
95 100 105

Lys Asn Cys Ser Ala Met Gly Ala His Leu Val Val Ile Asn Ser 110 115 120

Gln Glu Glu Gln Glu Phe Leu Ser Tyr Lys Lys Pro Lys Met Arg 125 130 135

Glu Phe Phe Ile Gly Leu Ser Asp Gln Val Val Glu Gly Gln Trp 140 145 150

Gln Trp Val Asp Gly Thr Pro Leu Thr Lys Ser Leu Ser Phe Trp
155 160 165

Asp Val Gly Glu Pro Asn Asn Ile Ala Thr Leu Glu Asp Cys Ala 170 175 180

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Thr Met Arg Asp Ser Ser Asn Pro Arg Gln Asn Trp Asn Asp Val
                 185
 Thr Cys Phe Leu Asn Tyr Phe Arg Ile Cys Glu Met Val Gly Ile
 Asn Pro Leu Asn Lys Gly Lys Ser Leu
                 215
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<400> 379
tattcctacc atttcacaaa tccg 24
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<210> 383
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cagactgagg gagatccgag a 21
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<400> 384
cagctgccct tccccaacca 20
<210> 385
<211> 18
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 385
 catcaagcgc ctctacca 18
<210> 386
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<223> Synthetic oligonucleotide probe
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cacaaactcg aactgcttct g 21
<210> 387
<211> 18
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<223> Synthetic oligonucleotide probe
<400> 387
 gggccatcac agctccct 18
<210> 388
<211> 22
<212> DNA
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<223> Synthetic oligonucleotide probe
<400> 388
gggatgtggt gaacacagaa ca 22
<210> 389
<211> 22
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<223> Synthetic oligonucleotide probe
<400> 389
tgccagctgc atgctgccag tt 22
<210> 390
<211> 20
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
<400> 390
cagaaggatg tcccgtggaa 20
<210> 391
<211> 17
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<400> 391
 gccgctgtcc actgcag 17
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<211> 21
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<400> 392
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<210> 393
<211> 20
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<400> 393
atgtcctcca tgcccacgcg 20
<210> 394
<211> 20
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<223> Synthetic oligonucleotide probe
<400> 394
gagtgcgaca tcgagagctt 20
<210> 395
<211> 18
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<213> Artificial Sequence
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<400> 395
ccgcagcctc agtgatga 18
<210> 396
<211> 21
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 gaagagcaca gctgcagatc c 21
<210> 397
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<400> 397
gaggtgtcct ggctttggta gt 22
<210> 398
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<223> Synthetic oligonucleotide probe
<400> 398
cctctggcgc ccccactcaa 20
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 ccaggagagc tggcgatg 18
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gccaagggtg gtgttagata gg 22
<210> 404
<211> 24
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<400> 404
 caggcccct tgatctgtac ccca 24
<210> 405
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 gggacgtgct tctacaagaa cag 23
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<400> 407
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<400> 408
 tctacatcag cctctctgcg c 21
<210> 409
<211> 23
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<400> 409
 cgatcttctc cacccaggag cgg 23
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gccaggcctc acattcgt 18
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 ctccctgaat ggcagcctga gca 23
<210> 412
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<400> 412
aggtgtttat taagggccta cgct 24
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<212> DNA
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<400> 413
 cagagcagag ggtgccttg 19
<210> 414
<211> 21
<212> DNA
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tggcggagtc ccctcttggc t 21
<210> 415
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<210> 416
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<400> 416
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<210> 417
<211> 24
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<400> 417
ggcaggggac aagccatctc tcct 24
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<400> 418
 gggactgaac tgccagcttc 20
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gggccctaac ctcattacct tt 22
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<223> Synthetic oligonucleotide probe
<400> 420
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<210> 421
<211> 21
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<213> Artificial Sequence
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<400> 421
tctgtccacc atcttgcctt g 21
<210> 422
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<212> DNA
<213> Homo Sapien
<400> 422
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cttcttcctg ctgctgcttt tcaggggctg cctgataggg gctgtaaatc 150
 tcaaatccag caatcgaacc ccagtggtac aggaatttga aagtgtggaa 200
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gaagaaaatt caagatgaac aaaccacata tgtgtttttt gacaacaaaa 300
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cgttgctcga aatgaccgca aggaaattga tgagattgtg atcgagttaa 450
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ctactgcatt gcttccaatg acgcaggctc agccaggtgt gaggagcagg 750
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<212> PRT

<213> Homo Sapien

<400> 423

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Ala Val Asn Leu Lys Ser Ser Asn Arg Thr Pro Val Val Gln Glu
35 40 45

Phe Glu Ser Val Glu Leu Ser Cys Ile Ile Thr Asp Ser Gln Thr
50 55 60

Ser Asp Pro Arg Ile Glu Trp Lys Lys Ile Gln Asp Glu Gln Thr
65 70 75

Thr Tyr Val Phe Phe Asp Asn Lys Ile Gln Gly Asp Leu Ala Gly 80 85 90

Arg Ala Glu Ile Leu Gly Lys Thr Ser Leu Lys Ile Trp Asn Val 95 100 105

Thr Arg Arg Asp Ser Ala Leu Tyr Arg Cys Glu Val Val Ala Arg
110 115 120

Asn Asp Arg Lys Glu Ile Asp Glu Ile Val Ile Glu Leu Thr Val 125 130 135

Gln Val Lys Pro Val Thr Pro Val Cys Arg Val Pro Lys Ala Val 140 145 150

Pro Val Gly Lys Met Ala Thr Leu His Cys Gln Glu Ser Glu Gly
155 160 165

His Pro Arg Pro His Tyr Ser Trp Tyr Arg Asn Asp Val Pro Leu 170 175 180

Pro Thr Asp Ser Arg Ala Asn Pro Arg Phe Arg Asn Ser Ser Phe 185 190 195

His	Leu	Asn	Ser	Glu 200	Thr	Gly	Thr	Leu	Val 205	Phe	Thr	Ala	Val	His 210
Lys	Asp	Asp	Ser	Gly 215	Gln	Tyr	Tyr	Cys	Ile 220	Ala	Ser	Asn	Asp	Ala 225
Gly	Ser	Ala	Arg	Cys 230	Glu	Glu	Gln	Glu	Met 235	Glu	Val	Tyr	Asp	Leu 240
Asn	Ile	Gly	Gly	Ile 245	Ile	Gly	Gly	Val	Leu 250	Val	Val	Leu	Ala	Val 255
Leu	Ala	Leu	Ile	Thr 260	Leu	Gly	Ile	Cys	Cys 265	Ala	Tyr	Arg	Arg	Gly 270
Tyr	Phe	Ile	Asn	Asn	Lys	Gln	Asp	Gly	Glu	Ser	Tyr	Lys	Asn	Pro
				275					280					285
Gly	Lys	Pro	Asp	Gly 290	Val	Asn	Tyr	Ile	Arg 295	Thr	Asp	Glu	Glu	Gl _y
Asp	Phe	Arg	His	Lys 305	Ser	Ser	Phe	Val	Ile 310					